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NASA TECH BRIEF

System Automatically Provides Dynamic Launch Decision Criteria

A sophisticated management tool has been conceived to provide instantaneous criteria, derived from the parametric behavior of a complex system such as a space launch vehicle plus its payload, for the decision making of launch management personnel. In prelaunch (countdown) activities of an equipment system involving the real time analysis of myriad pressure, temperature, stress, strain, voltage, current, resistance, and other continuously monitored measurements, it is imperative that management, in the form of the least possible number of final decision makers, have immediate access to all conditions on a continuing basis.

The management tool in this case is known as the Saturn V Dynamic Launch Decision Criteria Model. The model consists of a computer-driven graphic display system capable of converting real time inputs from all launch vehicle/spacecraft systems into analytic data in a format consonant with the established practices of management personnel. Because many functions in the prelaunch activities are performed in parallel, this dynamic model is quite complex, but still lends itself to complete utility by a limited number of decision-making managers. The model does not itself make or even suggest decisions but rather displays continuously and in real time the events and conditions upon which the proper decisions can be made.

Notes:

1. While the instant model has been conceived for use with a space launch system, it provides real time data from a variety of inputs that are involved in terrestrial, industrial, and commercial complexes in everyday use.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: B67-10363

Patent status:

No patent action is contemplated by NASA.

Source: J. E. Doig
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